



### **REMARKS**

In the final Office Action<sup>1</sup> mailed December 21, 2006, the Examiner rejected claims 21, 23, 33, 35, 38, 39, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu et al. (U.S. Patent Application Publication No. 2002/0075443, hereafter "Shimizu") in view of Sawasaki et al. (U.S. Patent Application Publication No. 2001/0026347, hereafter "Sawasaki"); and rejected claims 22, 24, 34, and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu and Sawasaki in view of Miyachi et al. (U.S. Patent No. 6,211,937, hereafter "Miyachi"). Claims 21-24, 27-36, 38, 39, 41, and 42 remain pending, with claims 27-32 withdrawn from consideration.

**I. Rejection of Claims 21, 23, 33, 35, 38, 39, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Sawasaki:**

Applicant respectfully traverses the rejection of claims 21, 23, 33, 35, 38, 39, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Sawasaki. A *prima facie* case of obviousness has not been established.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In *re* Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

A *prima facie* case of obviousness has not been established because, among other things, neither Shimizu, nor Sawasaki, nor their combination, teaches or suggests each and every element of independent claims 21 and 33.

Each of independent claims 21 and 33 recites a liquid crystal display panel comprising, for example,

a plurality of first protrusions . . . ;

a plurality of second protrusions . . . ; and

a plurality of third protrusions . . . ; wherein the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material.

(Emphasis added). Shimizu and Sawasaki, taken either alone or in combination, fail to teach or suggest these elements.

The Examiner acknowledged, "Shimizu et al. failed to disclose . . . that the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material," Office Action at page 4. However, the Examiner relied on Sawasaki in asserting, "Sawasaki et al. disclose in Figure 48 a liquid crystal display device comprising a plurality of third protrusions (element 246a) . . . and Sawasaki et al. further disclose in Paragraphs 0227-0228 that the first and second protrusions are formed so to act as rigid supports for the substrates, therefore, are harder than the third protrusions," Office Action at page 4. Applicant respectfully disagrees.

Paragraphs [0227]-[0228] of Sawasaki merely disclose that an amount of deformation of spacers 225a against an applied pressure can be adjusted by

appropriately selecting a dispersion density, section area, and material of the spacers 225a.

However, Sawasaki discloses in paragraph [0276], with reference to Fig. 47, “domain defining projections 246a are formed under the color filters 223R, 223G, 223B in a zigzag fashion,” and in paragraph [0017], “a liquid crystal display device in which vertically aligned liquid crystal (negative type liquid crystal) is sealed between a pair of substrates, which comprises cell gap adjusting spacers formed on at least one of the pair of substrates, for maintaining a cell gap constant, and domain defining projections formed on a substrate side, to which the spacers are formed, with same material as the spacers by same steps to have a height lower than the spacers,” (emphasis added).

Accordingly, it appears that the spacers and the domain defining projections of Sawasaski are made of the same material, which cannot constitute a teaching of “the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material,” as recited in claim 1. Accordingly, Shimizu and Sawasaki fail to establish a *prima facie* case of obviousness with respect to independent claims 21 and 33. Claims 21 and 33 are therefore allowable. Claims 23, 35, 38, 39, 41, and 42 depend respectively from claims 21 and 33, and are also allowable at least due to their dependence.

In view of the above, the rejection of claims 21, 23, 33, 35, 38, 39, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Sawasaki is improper and should be withdrawn.

**II. Rejection of claims 22, 24, 34, and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu and Sawasaki in view of Miyachi :**

Applicant respectfully traverses the rejection of claims 22, 24, 34, and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu and Sawasaki in view of Miyachi, because a *prima facie* case of obviousness has not been established. A *prima facie* case of obviousness has not been established because, among other things, Shimizu, Sawasaki, and Miyachi, taken either alone or in any combination, fail to teach or suggest each and every element of claims 22, 24, 34, and 36.

As discussed above, Shimizu and Sawasaki fail to establish a *prima facie* case of obviousness with respect to independent claims 21 and 33. The Examiner cited Miyachi against claims 22 and 34 as teaching “protrusions ... contacting the TFT devices,” Office Action at page 7. The Examiner further cited Miyachi against claims 24 and 36 as teaching “the [predetermined] distance ... [being] in the range of 1.0  $\mu\text{m}$  to 2.0  $\mu\text{m}$ ,” Office Action at page 8. Even assuming the Examiner’s characterization of Miyachi is correct, which Applicant does not concede, Miyachi still fails to cure the deficiencies of Shimizu and Sawasaki, discussed above. That is, Miyachi also fails to teach or suggest “the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material,” as recited in independent claims 21 and 33, and required by claims 22, 24, 34, and 36. Claims 22, 24, 34, and 36 are therefore allowable.

Accordingly, the rejection of claims 22, 24, 34, and 36 under 35 U.S.C. §103(a) as being unpatentable over Shimizu and Sawasaki in view of Miyachi is improper and should be withdrawn.

### III. Conclusion:

In view of the foregoing remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By: \_\_\_\_\_

Richard V. Burdugian  
Reg. No. 31,744